REMARKS

Prior to the present amendment, claims 4, 7, 10 and 22 were pending. As a result of the foregoing amendments, which includes the addition of new dependent claim 28, claims 4, 7, 10, 22 and 28 are currently pending. Reconsideration of this application in light of the foregoing amendments and following remarks is respectfully requested.

From the statement on page 2 of the outstanding office action, applicants have inferred that the drawings filed April 11, 2006, have been considered acceptable for all purposes. If this understanding is incorrect, an indication of any informalities in such drawings would be appreciated.

The rejection of claims 4, 7, 10, and 22, 35 U.S.C. 112, second paragraph, for the reason set forth on pages 2 and 3 of the outstanding office action, is respectfully traversed.

As can be seen from the foregoing amendments, these claims have been amended to include the phrase: "substantially most of the absorption of the gain medium is between or about the peaks of the wavelength selection reflective filter wavelength," in place of the phrase: "within the operating wavelength of the laser in the absence of said filter." This clarifying language, which is based upon Figure 5a and the descriptive text in paragraph [7] of the specification, is believed to obviate the rejection. Withdrawal of the rejection is, accordingly, earnestly solicited.

The rejection of claims 4, 10, and 22, under 35 U.S.C. 102(b) as being anticipated by Koch et al, (US Patent No. 6,295,304), is respectfully traversed.

At the outset, it should be noted that the patent to Koch et al disclose a fiber laser amplifier system that uses resonant pumping of the gain medium, by pumping a pump resonator that establishes a resonator cavity at the pump wavelength, which includes the pumped gain medium. Koch et al make no mention of a laser system as recited in the amended claims, which includes a laser element having a laser signal, a gain medium having an absorption, optically coupled to be pumped by the laser element, and a wavelength-selective stabilizing reflective filter in line with the laser for receiving the laser signal, wherein the reflective filter has a reflectivity profile having reflectivity peaks at two predetermined spaced wavelengths, wherein substantially most of the absorption of the gain medium is between or about the peaks of the wavelength selective reflective filter wavelength and providing optical feedback of a portion of the laser signal to the laser element that wavelength-stabilizes its output, a degree of reflectivity at said predetermined wavelengths and a relative wavelength separation between the predetermined spaced wavelengths being such that throughout the change in operating conditions, output power of the laser element is concentrated at one or more of the reflector center wavelengths, with regions of negligible output power at wavelength sections between the reflector center wavelengths, wherein the laser system is without active cooling.

Applicants' claimed invention successfully provides a system wherein the wavelength selective filter ensures that

the laser lases about two spaced wavelengths, and wherein those wavelengths are selected such that they produce similar absorption in the gain medium.

As noted above, this feature of the invention is shown in Figure 5a and described in paragraph [7] of the present application, which reads as follows:

"Preferably, there are only two output reflectors, and they are positioned in wavelength on either side of, and substantially equidistant from, a peak absorption wavelength of a gain medium being pumped by the laser. Thus, if the reflectors have the same degree of partial reflectivity, the relative absorption of the gain medium for the two reflector wavelengths is approximately equal. This gives roughly the same pulling range to each of the gratings for the purposes of wavelength lock. Moreover, the reflector wavelengths are close enough to each other relative to their degree of reflectivity such that, as the output of the laser medium shifts with temperature, positive lock to one or both of the output reflectors is ensured."

Figure 5a depicts that the wavelength of the two filters is on either side of the absorption peak of the gain medium, and that most of the absorption of the gain medium is between or about the two wavelength of the filter, as now claimed.

Newly added dependent claim 28 further delimits claim 4, by reciting that the wavelength peak of the gain medium is between the predetermined spaced wavelengths of the reflective filter. This feature is also not suggested in any of the prior art cited references.

The rejection of claim 7, under 35 U.S.C. 103 (a), as being unpatentable over Koch et al in view of Tatsuno et al, is also respectfully traversed.

Claim 7, as currently amended, reads as follows:

7. (currently amended) A laser system, comprising:
a laser element having a laser signal output, the wavelength profile of which changes with a change in operating conditions, said laser element for pumping a gain medium having an absorption; and
a wavelength-selective stabilizing reflective filter in line with the laser for receiving the laser signal, said reflective filter having a reflectivity profile having reflectivity peaks at two predetermined spaced wavelengths — wherein substantially most of the absorption of the gain medium is between the peaks of the wavelength selective reflective filter wavelength, the reflective filter being partially reflective at said different predetermined reflective spaced wavelengths and substantially less reflective in a wavelength band there between, and providing optical feedback of a portion of the laser signal to the laser element that wavelength-stabilizes its output, a degree of reflectivity at said predetermined wavelengths and a relative wavelength separation between the predetermined spaced wavelengths being such that throughout the change in operating conditions, output power of the laser element is concentrated at one or more of the reflector center wavelengths, with regions of negligible output power at wavelength sections between the reflector center wavelengths, wherein the wavelength selective

reflective filter includes wavelength selective dielectric coatings. (Emphasis Added)

In contrast thereto, Koch et al do not disclose or suggest a laser system having a laser diode for pumping a gain medium wherein the gain medium has an absorption peak, and wherein a reflective filter that provides feedback to a laser diode has two reflective wavelengths wherein the wavelength of the absorption peak of the gain element is between the two reflective wavelengths for stabilizing the laser and locking it to and between the two wavelengths to take most advantage of the gain medium and its characteristics.

Moreover, the use of a dielectric coating to implement a wavelength selective filter, as described by Tatsuno et al, does not remedy the deficiencies of Koch et al. Withdrawal of the rejection of claim 7 is, accordingly, respectfully requested.

In view of the foregoing, it is respectfully submitted that the present application is now in condition for allowance.

Early and favorable reconsideration of this application would be appreciated.

Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to

In re Patent Application of:
MEHUYS ET AL
Serial No. **10/795,925**
Filed: **03/08/2004**
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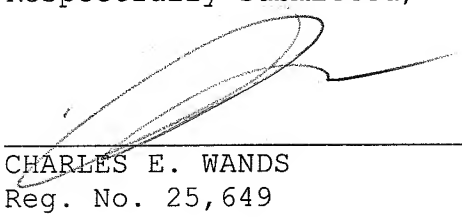
Deposit Account No. **50-1465** and please credit any excess fees to such deposit account.

Respectfully submitted,



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